SUMMARY

In December of 2000, the National Marine Fisheries Service issued a Biological Opinion (BIOP) to the Bureau of Reclamation (Reclamation), Bonneville Power Administration, and the U.S. Army Corps of Engineers for the operation of the Federal Columbia River Power System. The BIOP included a Reasonable and Prudent Alternative (RPA), of which Action 31 advised Reclamation to "assess the likely environmental effects of operation of Banks Lake up to 10 feet down from full pool during August."

Reclamation proposes to complete RPA Action 31 by preparing the Banks Lake Drawdown Draft Environmental Impact Statement (EIS) to describe and analyze the environmental effects of lowering the August surface elevation of Banks Lake to elevation 1560 feet, which is 10 feet below full pool.

Purpose and Need

The purpose of the proposed action is to enhance the probability of meeting flow objectives in the Columbia River at McNary Dam during the juvenile out-migration of ESA-listed salmonid stocks by altering the August drawdown of Banks Lake from elevation 1565 down to elevation 1560, to comply with Action 31 of the Reasonable and Prudent Alternative of the Federal Columbia River Power System Biological Opinion, issued by the National Marine Fisheries Service on December 21, 2000.

The project need is to provide increased flows for ESA-listed salmonid stocks by modifying Banks Lake's operations.

Issues

Issues that were identified during the scoping process and are considered in the draft EIS discussion of the affected environment and environmental consequences are:

- Lake elevations, instream flows, and water quality
- Irrigation deliveries
- Fish and wildlife
- Threatened and endangered species
- Recreation
- Public safety—roads, boating, and fire hazards
- Cultural resources
- Economics, particularly for local economy and power

Location and General Description of Affected Area

The lands surrounding the reservoir support a rich vegetative mosaic of shrub-steppe, mesic shrub, upland forest, and riparian/wetland communities, many of which the Washington Department of Fish and Wildlife has identified as "priority habitats." The area supports a variety of wildlife. The riparian habitats along perennial streams and shorelines provide important winter roosting areas for many bird species, including the bald eagle. The islands at the southern end of the reservoir provide habitat for colonial nesting birds and waterfowl. Important waterfowl breeding areas include Devil's Punch Bowl, Osborn Bay, and the wetlands and waters located at the south end of Steamboat Rock peninsula and below Dry Falls Dam.

Alternatives Including the Proposed Action

Two alternatives are described and analyzed in this draft EIS. The first alternative is the No Action, which describes the Banks Lake August water surface elevations that would occur if Reclamation decided not to implement the proposed action. Four scenarios on how to achieve the elevation of 1565 feet by August 31 are presented. The Action Alternative describes the proposed operational modification of August water surface elevations to achieve elevation 1560 feet by August 31. Four scenarios are presented to illustrate how this elevation could be potentially reached.

There may be conditions when Reclamation would not provide the drawdowns described in the No Action and Action Alternatives. In addition, in some years drawdowns may be more than that described in the alternatives. Conditions that may trigger a lesser or greater drawdown could include, but are not limited to (1) the inability to refill Banks Lake to 1565 by September 10, (2) mechanical limitations to pumping capacity, (3) low water years when flows in September are predicted to be insufficient to supply refill water, (4) high water years when the contribution of Banks Lake is not needed to meet flow targets, (5) years when energy demand is predicted to limit the amount of power available for refill during early September, and (6) drawdowns for maintenance needs. Even during years with these types of conditions, partial drawdowns might be possible. It is anticipated that conditions that would preclude drawdowns would only occur infrequently.

For the purpose of analysis in this draft EIS, it is assumed that Banks Lake would be operated as described in the alternatives. Impacts resulting from the infrequent changes to the described operation would be evaluated on a case specific basis with appropriate NEPA compliance being conducted at that time.

No Action Alternative

Under No Action, Banks Lake water surface would normally range between elevation 1570 feet and elevation 1565 feet between August 1 and September 10. The goal and maximum possible draft of Banks Lake in August would be from elevation 1570 feet to 1565 feet. Approximately 133,600 acre-feet of water, the volume between 1570 and 1565 feet, would be available to increase streamflow for fish migration targets during August. Under the No Action Alternative, Reclamation would still have the discretion to manage the lake level to other elevations for authorized purposes. Three different scenarios to draft this volume of water were modeled, while another scenario assumed no draft. All four scenarios, as shown in figure S-1, are evaluated in the draft EIS.

Scenarios consist of No Draft, an Early Draft, a Uniform Draft, and a Late Draft. The first scenario assumes that Banks Lake surface is at elevation 1565 feet on August 1, while the remaining three scenarios assume that the water surface is at elevation 1570 feet on August 1.

The four different drawdown scenarios have been developed to show the range of conditions that may occur as the lake is operated between elevations 1570 and 1565 feet.

1. No Draft — Banks Lake surface elevation remains at 1565 feet between August 1 and August 31. Average rate of draft = 0.00 feet per day.

2. Early Draft — Draft Banks Lake surface elevation from 1570 feet on August 1 to elevation 1565 feet on August 10. Average rate of draft = 0.50 foot per day.

3. Uniform Draft — Draft Banks Lake surface elevation from 1570 feet on August 1 to 1565 feet on August 31. Average rate of draft = 0.16 foot per day.

4. Late Draft — Draft Banks Lake surface elevation from 1570 feet on August 22 to 1565 feet on August 31. Average rate of draft = 0.50 foot per day.

Under No Action, the September 1 Banks Lake surface would be a minimum elevation of 1565 feet. Since minimum September surface elevations without the proposed action are required to be at elevation 1565 feet, no refill would be required under the No Action Alternative.

Action Alternative

In the Action Alternative, Banks Lake water surface elevations would normally range between 1570 feet and 1560 feet between August 1 and September 10 (figure S-1).

Nevertheless, under the Action Alternative, Reclamation would still have discretion to manage the lake level to other elevations for authorized purposes.

Relative to No Action, the Action Alternative includes drafting an additional 5 feet from 1565 feet to 1560 feet, providing an additional 127,200 acre-feet of water. This water could be used to increase the flow volume of the Columbia River at McNary Dam by about 1 to 2 percent during the month of August, as compared with No Action.

The range of possible surface elevations under the Action Alternative has been evaluated by selecting four scenarios, as shown by figure S-2. These scenarios consist of a Low Water/Early Draft, Early Draft, Uniform Draft, and a Late Draft. The first scenario assumes that the surface is at elevation 1565 feet on August 1. The other scenarios assume that the Banks Lake surface elevation is at 1570 feet on August 1.

1. Low Water Early Draft	Draft Banks Lake surface elevation from 1565 feet on August 1 to 1560 feet by August 10, where the elevation will remain until August 31. Average rate of draft = 0.5 foot per day.
2. Early Draft	Draft Banks Lake surface elevation from 1570 feet on August 1 to 1560 feet by August 20. Banks Lake surface remains at elevation 1560 feet until August 31. Average rate of draft = 0.5 foot per day.
3. Uniform Draft	Draft Banks Lake surface elevation from 1570 feet on August 1 to elevation 1560 feet on August 31. Average rate of draft = 0.32 foot per day.
4. Late Draft	Beginning on August 11, draft Banks Lake surface elevation from 1570 feet to elevation 1560 feet by August 31. Average rate of draft = 0.5 foot per day.

Under the Action Alternative, August 31 Banks Lake surface elevation targets would be 1560 feet. Because the desired minimum September surface elevation goal is to be at or above elevation 1565 feet, a refill is assumed under the Action Alternative. For the purpose of this analysis, refill is assumed to begin on September 1 with the goal of reaching elevation 1565 feet by September 10 of each year. Nevertheless, under the Action Alternative, Reclamation would have discretion to manage the lake level to fill at other times for other authorized uses.

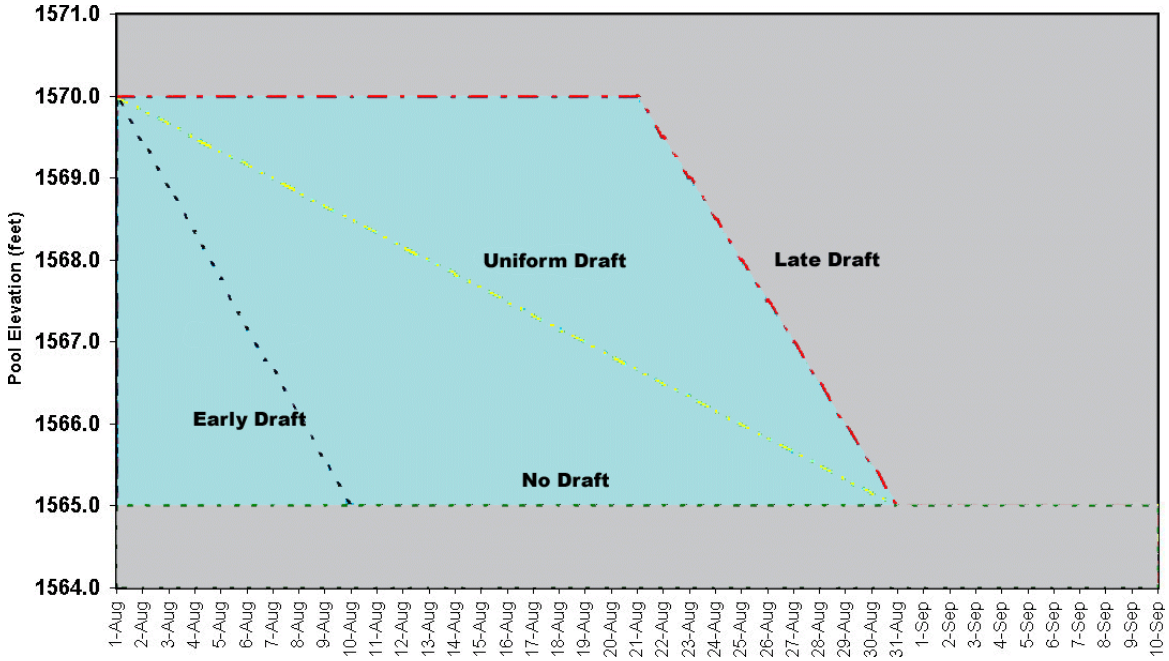

Figure S-1.—The four scenarios for the No Action Alternative.

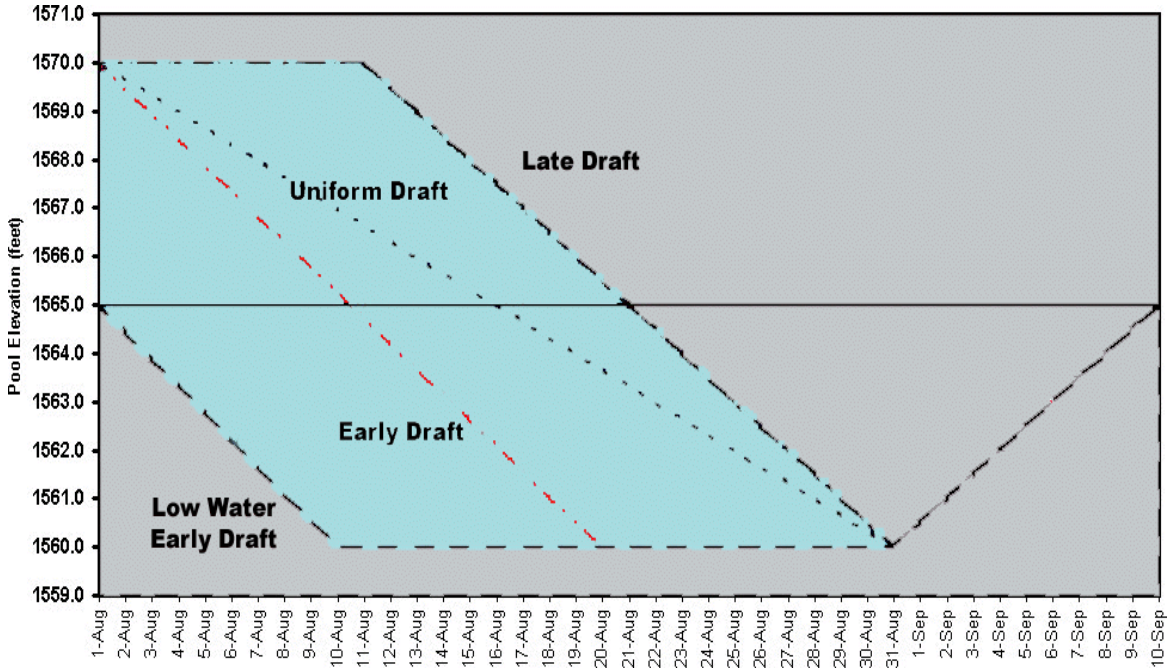

Figure S-2.—The four scenarios for the Action Alternative.

Summary Comparison of the Environmental Impacts of the Alternatives

The draft EIS describes and analyzes the future of the resources in the No Action (condition of the resources without the proposed action), as well as the impacts on the resources that would occur from the proposed action. The resources evaluated in the draft EIS are vegetation, fish and wildlife, threatened, endangered and special status species, economics, recreation, irrigated agriculture, historic resources, traditional cultural properties, Indian trust assets, environmental justice, surface water quality, groundwater quality, Native American sacred sites, visual quality, air quality, soils, and social environment. Table S-1 provides the impacts to these resources.

Table S-1.—Summary comparison of the environmental consequences of the alternatives.

Affected resource	No Action Alternative [1]	Action Alternative
Vegetation, fish, and wildlife	Abundance and distribution continue to fluctuate with seasonal water levels, but overall stable.	Distribution and abundance impacted by more severe water level fluctuations.
Threatened and endangered species	Abundance and distribution continue to be limited by available habitat.	Fish prey may be more available to bald eagles. Increased Columbia River flows should benefit salmon.
Economics		
FCRPS [2]	Annual power generation changes range from 0 to a 115,000-MWh increase for the No Action scenarios.	Net changes in energy generation range from a loss of 8,000 MWh (megawatt hour)to a loss of 41,000 MWh annually.
GCPHA [3]	Power generation is not anticipated to change and will continue as it has historically.	Net power generation losses range from 521 MWh to 2,370 MWh annually.
PUD [4] powerplants	Total energy replacement impacts range from losses of 6,159 MWh to 42,030 MWh annually.	Net power generation losses that would need to be replaced range from 6,081 MWh to 6,456 MWh annually.

Affected resource	No Action Alternative [1]	Action Alternative
Regional and local economy	Access to the water, number of recreation visits, recreation-related expenditures by the public, and the net benefits of recreation occur as they have in the past.	Surface water elevations below 1565 feet affect access and recreational use and, in turn, some recreation-oriented businesses. Lower water levels may curtail recreation visits, which would result in lower expenditures at a few recreation-related businesses near the lake. Overall, economic impacts on the economy of Grant County are negligible. The effect on net benefits of recreation within the county is indeterminate.
Recreation	7 of 12 boat launches are exposed and rendered unusable during the late recreation season (elevation 1565).	10 of 12 boat launches are exposed and rendered unusable at elevation 1562. No launches on the southern half of Banks Lake would be usable. Steamboat Rock State Park (approx. 600,000 visitors annually) would not have a usable launch at elevation 1562.
Irrigated agriculture	Full delivery of water to CBP [5] farmers.	Full delivery of water to CBP farmers.
Historic resources	Surveys would be conducted in the drawdown zone between elevations 1570 and 1565.	Surveys would be conducted in the drawdown zone between elevations 1570 and 1560.
Traditional cultural properties	Continuation of existing trends.	No impact.
Indian trust assets	Continuation of existing trends.	No impact.
Environmental justice	Continuation of existing trends.	No impact.
Surface water quality	Temperature and stratification will continue to change with changes in water elevation and meterological conditions.	Mixing may shift 1 or 2 weeks earlier in the fall due to greater mixing and heating of the lake surface.
Groundwater quality	Concentrations and groundwater levels will fluctuate with the elevation of Banks Lake.	Water level may change in the short term but will return to normal during refill. No change in existing concentration trends.
Native American sacred sites	Continuation of existing trends.	No impact.

Affected resource	No Action Alternative [1]	Action Alternative
Visual quality	Approximately 1,300 acres of an unvegetated bathtub ring between elevations 1565 and 1570 feet.	Approximately 2,500 acres of an unvegetated bathtub ring between elevations 1570 and 1560 feet.
Air quality	Continuation of existing trends.	No impact.
Soils	Continuation of existing trends.	No impact.
Social environment	For some, as operation of Banks Lake will not change, values will not be affected. For others who value increased water for endangered salmon runs, their values will not be upheld.	The values of those who desire increased water for endangered salmon runs will be upheld.

[1] "Continuation of existing trends" means that the current trend of the resource is not predicted to change under No Action.
[2] Federal Columbia River Power System
[3] Grand Coulee Project Hydroelectric Authority
[4] Public Utility District
[5] Columbia Basin Project (CBP)

Summary of Environmental Commitments for Proposed Action

The following descriptions are the environmental commitments that Reclamation will include in the Record of Decision if the proposed action is implemented. Environmental commitments include any mitigation measures identified for the resource components evaluated in chapter 4 of this EIS, as well as commitments made in response to the Fish and Wildlife Coordination Act Report recommendations.

Regional/Local Economy and Recreation

Extending boat launches, modifying mooring docks, and dredging deeper channels would improve watercraft access at lower water levels. To the extent available, funds will be provided to ensure that usable boat ramps, courtesy docks, and swimming areas still exist on

both the north and south ends of Banks Lake. Not all such areas need to be enhanced, but public access will be maintained to the lake for recreational purposes.

Historic Resources

Historic resource surveys in the 1565- to 1570-foot elevation drawdown zone are scheduled for the 2002 drawdown. Surveys in the 1560- to 1565-foot elevation drawdown zone will be scheduled during the first year this drawdown occurs.

Traditional Cultural Properties

Surveys for TCPs in the 1565- to 1570-foot elevation drawdown zone are scheduled for the 2002 drawdown. Surveys in the 1560- to 1565-foot elevation drawdown zone will be scheduled during the first year this drawdown occurs.

Native American Sacred Sites

Measures to identify sacred sites will coincide with a historic resource survey in the 1565- to 1570-foot elevation during the annual 2002 drawdown. The same will occur under the Action Alternative at the first opportunity.

Coordination Act Report Recommendations

In accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended, 16 USC 661 et seq.), the Fish and Wildlife Service provided a draft Coordination Act Report documenting wildlife resources, habitat, and management concerns within the drawdown study area (FWS 2002) to assist in the development of this document. Reclamation would commit to implementing the following recommendations outlined in the draft Coordination Act Report. These recommendations were not completed as the proposed action was not implemented.

- Some mitigation actions for various adverse impacts (existing and potential future impacts) could include the establishment of native riparian vegetation in various areas of the drawdown zone, such as native bunchgrasses and forbs in shrub-steppe and riparian vegetation along the shorelines. The limited time frame of this drawdown may limit the logistical feasibility of this mitigation.

- The BOR [Bureau of Reclamation] should designate a minimum operating level for Banks that allows for feasible operation of net-pen operations at the north and south ends of Banks Lake.

- If 10-foot drawdown is extended into the early spring season of 2003, the BOR shall ensure that both net-pen operations at the north and south ends of Banks Lake will be moved to an ideal operation location before September 2002.

- If the 10-foot drawdown is implemented, the BOR should ensure timely refill of Banks Lake up to 1565 feet by early September to ensure operation of net-pens.

- The BOR shall work collaboratively with WDFW and the Service to develop studies that would examine the effect or lack of effect of the proposed drawdown on rearing fish species in Banks Lake.

- The Service recommends the BOR to develop a short-term plan that would address potential modifications of current boat ramp and moorage facilities in order to facilitate summer use activities.

- The BOR should ensure that a complement of riparian vegetation be maintained along the Banks Lake drawdown zone and that conditions should be sufficient to provide for short-term input of nutrients into the water column as Banks Lake approaches its refill goal.

- A study to determine the reproductive success of western grebes in the study area should be initiated to help determine the level of management that should be applied to protect these birds in light of the proposed drawdown.

- Surveys for pygmy rabbits should be done in specific areas within shrub-steppe communities to address the potential of increased public use that has been diverted away from Banks Lake due to the drawdown.

- Hatchery compensation via the WDFW is an option that the BOR should pursue if lack of recruitment for certain fish populations is linked to the proposed drawdown.

- Protection of habitat, such as shrub-steppe, from fire is important, in this and region since it does not recover quickly from fire. Attempts should be made to ensure shoreline access to water resources in the event of uncontrolled wildfire in these designated shrub-steppe areas.

- Additional Ute ladies'-tresses surveys should be conducted at the two perennial streams which enter Banks Lake from the northwest and some of the springs and seeps within the immediate vicinity to determine potential impacts to this plant from the proposed drawdown.

- Updating the GIS [geographic information system] work that was done at Banks Lake by the BOR would be valuable. Aside from changes that will occur over time, this

would allow some of the errors the Service identified in its 1998 Planning Aid Memorandum (U.S. Fish and Wildlife Service 1998) to be corrected and a more accurate vegetation map to be generated to determine potential wetland impacts linked to the drawdown and concurrent management actions.

- The BOR should initiate studies to examine the potential effects of the drawdown on wildlife species.